SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 30 (2011) 1124 – 1126

Procedia
Social and Behavioral Sciences

WCPCG-2011

The effects of music therapy on sensory motor functions of multiple handicapped People: Case study

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Abstract

Music has been successful as a therapeutic intervention for persons with mental and physical disabilities. Motor and mental coordination can be improved through many musical experiences. A systematic process of music The purpose of this research was to evaluate the effects of musical activities on developing the sensory-motor functions of multiple handicapping. Two female multiple handicapped that suffered from severe mental retardation (IQ, 30), and severe sensory-motor function were selected randomly from Fatemeh-Al-Zahra centre in Yazd city of Iran. 3 pieces of classic music were used. Ten 1hour music therapy sessions were conducted with them during a 4week period. Nurses completed the pre- post Sensory Motor Questionnaire. The results emphasized the effect of music therapy on sensory motor reactions.

Keywords: multiple handicapped, music therapy, sensory motor

1 Introduction

The word multiple handicapped is used to refer to those person with more than one problem which has tremendous effect on their learning ability (Nocera, 1979). The psychosocial rehabilitation of the multiple handicapped has been a matter of importance in health policy. Music therapy has been recommended as a helpful part of a combined treatment policy for them. Music can supplement medical treatment. The low side effects and cost of music and the subsequently high level of patient satisfaction are some advantages. Multiple handicaps suffer from tremendous physical handicaps or defects that may include listening and seeing problems as well as problems in movement mechanism. Musical activities are often used for motion and also to motivate the conscious reactions and complete power of sensory motivations (Lathom, 1981). Music therapy is a controversial but effective form of rehabilitation on mentally handicapped people. Music process is used in order to restore, maintain, and improve emotional, physical, physiological, and spiritual health and well being (Aldridge, 2000). Some researches have

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Selection and/or peer-review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.
doi:10.1016/j.sbspro.2011.10.219

proved the effects of music on sensory- motor and communication aspects, for example Hai-boyu,Yong-fengLiu and Li-xiong (2009) were found significant effect of acupuncture with music therapy on cerebral palsy persons. Research by Gotell et al., (2009) illuminated caregiver singing and background music as improving the patient's ability to express positive emotions and moods, and to elicit a sense of vitality on the part of the person with severe dementia (Gotell, Brown, & Ekman, 2009). Nayak, Wheeler, Shiflett and Agostinelli (2000**)** also reported significant effect of music therapy on social interactions, mood on traumatic brain injury patients. This study was conducted to evaluate the effect of musical activities on developing the sensory-motor actions the movement of hand, leg, head and body, following the orders of the therapist, interpersonal relations and speech quality, and face language of multiple retardation person.

2 Method

Two female multiple handicapped (21 and 20 aged) were selected randomly from Fatemeh-Al-Zahra center in Yazd city. Both were suffering from severe mental retardation (IQ, 30), and profoundly sensory-motor functions. Thn 1 hour music therapy sessions were conducted with them during a 4-week period. Nurses were asked to complete the pre- Sensory Motor Questionnaire prior to engaging in music therapy experiences. Both profoundly handicapped had severe difficulty in hand, leg and head movement. They couldn't turn to left or right completely and hardly moved their fingers. The multiple handicapped listened to 3 pieces of classic music including Mozart, Hiden and Khachatorian melodies. All functions such as: head movement, face tongue, laugh, cry, anger, scream, finger movements, the number of following the therapist's orders, words and eye contact were recorded. Following the 15 hour music therapy sessions, nurses completed the post- Sensory Motor Questionnaire.

3 Results

Music therapy techniques have been used to develop and maintain joint and muscle function or to increase fine and gross motor coordination and control, increase muscle strength, increase range of motion, improve cardiopulmonary and respiratory functioning and improve oral-motor skills. In our study it has been observed that music, mainly from its rhythm, the subjects started to move hand, leg, head and body movements and emotional reactions such as face tongue. Listening to music accompany with of playing bells instruments, empowered better balance of their physical movements and body posture and to evoke a positive feeling by facilitated self-control in these way. They learned following the music therapist's orders and increasing their concentration in playing the bells with listening to music for example the number of following the therapist's orders in the first session was 13 and in the last one was 47 times. In the index of leg movement the number of knee movements in the sixth session was 121, while in the first session was 5. The results indicated that music activities can enforce willing to respond the orders and also imitating in multiple handicap persons. Relationship with each other within musical activities help them to learn some social activities such as knowing the group members, collective work, waiting for the other's turn, self-confidence and ability to learn working.

4 Conclusion

Music therapy as an addition to standard care helps people with multi handicapped to improve their mental and physical states and functioning if a sufficient number of music therapy sessions are provided. Furthermore, it illustrates the use of music therapy in treating the needs of rehabilitation centers and provides various results that support the positive effects of music therapy. Also further research should address the long-term effects of music therapy.

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